

THREE NEW SPECIES OF DELTOCEPHALUS
(HOMOPTERA : CICADELLIDAE).

By P. W. OMAN,

Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

The three species herein described are from the western part of the United States. Two of these are forms for which names have been requested on numerous occasions, and one, *grex*, has frequently been included in material submitted for identification in connection with a survey of the insects associated with peach mosaic disease in the Southwestern States.

I am indebted to Dr. M. T. James, of the Colorado State College, Fort Collins, Colo., for the privilege of examining the types of *Deltocephalus vanduzeei* Gillette and Baker and to Mr. L. D. Tuthill, of the Iowa State College, Ames, Iowa, for the comparison of specimens with the types of *Deltocephalus fuscinervosus* Van Duzee.

Deltocephalus grex, n. sp.

Related to *durus* Beamer and Tuthill but less robust, the aedeagus lacking a basal sheath and with a pair of small vanelike processes on the distal portion. Length 3-4 mm., greatest width 1 mm.

Color extremely variable, with nearly all markings occasionally absent. Typical color and markings as follows: Ground color sordid yellowish white; face with irregular fuscous marks along sutures and with broken transverse bars of fuscous on clypeus; crown with a pair of small fuscous spots at the apex, a larger, irregular fuscous spot on each anterolateral margin, and traces of two pale-brown spots on each side of median line near posterior margin; pronotum with six pale-brown stripes, the two lateral ones narrower and frequently indistinct; veins of forewing rather distinct by contrast with the infuscated margins of the cells; thorax and abdomen mostly fuscous; legs irregularly banded with fuscous.

Head shorter than in *durus*. Form comparatively slender, forewings extending well beyond tip of abdomen. Posterior margin of seventh sternite of female truncate or occasionally very shallowly emarginate medially. Male plates broad basally, triangular in outline. Style and aedeagus as illustrated (fig. 1, *A, B*).

Holotype male, allotype female, and numerous paratypes of both sexes from Kirkland Junction, Ariz., May 31, 1935 (Oman). Types in the collection of the U. S. National Museum (cat. No. 54388). There are also at hand several hundred specimens from various localities in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, and Washington.

This species, one of the commonest leafhoppers in the western part of the United States, has heretofore been commonly misidentified as either *fuscinervosus* Van Duzee or *vanduzeei* Gillette and Baker. However, in both these species the aedeagus is of

the simple, curved type illustrated for *vanduzei* by DeLong and Slesman¹ which is quite different from the aedeagus found in *grex*, illustrated by these authors under the name *fuscinervosus*, and on this basis *grex* may be differentiated from them with certainty. DeLong's illustrations² on plate 19 appear correct for *fuscinervosus*, while the illustrations labeled *vanduzei* apply to *grex*, but on plate 29 the illustration labeled *fuscinervosus* apparently is of *grex* while that labeled *vanduzei* appears to be of *fuscinervosus*.

Deltocephalus dorsti, n. sp.

Related to, and easily confused with, *grex*, but slightly more robust; in general form somewhat intermediate between that form and *durus*. Aedeagus broader and with larger vanelike processes than in *grex*. Length 3-3.75 mm.

Color and markings as in *grex* but the fuscous spots on the crown usually smaller and evidence of the occurrence of extremely pale variants lacking.

Form rather variable with respect to degree of robustness, the more robust individuals usually with short wings which, especially in female examples, frequently do not extend to the tip of the abdomen. Posterior margin of seventh sternite of female broadly and shallowly emarginate medially. Male plates a little larger than those of *grex*, otherwise similar. Style and aedeagus as illustrated (fig. 1, C. D).

Holotype male, allotype female, and numerous paratypes of both sexes from Brighton, Utah, September 1, 1933 (Davis and Dorst). Types in the collection of the United States National Museum (cat. No. 54389). Specimens from the following localities are also at hand. Arizona: Littlefield, Colorado: Pingee Park. Utah: Duck Creek Spring, Heber City, Logan, Morgan, Orton, Providence, Richfield, Salt Lake City, Snyderville, Springville, and Strawberry Dam.

I take pleasure in naming this species for Mr. Howard E. Dorst, who has done much to increase our knowledge of the leafhopper fauna of Utah.

Deltocephalus playensis, n. sp.

Related to *minutus* Van Duzee but larger and more robust. Markings on crown, when present, similar to those of *balli* Van Duzee. Length of female 3 mm., of male 2.75 mm.

Ground color of female sordid yellowish white, of male pale sordid yellow, usually with traces of pale green. Face marked with broken transverse bars which form a broad irregular band between the antennal sockets. Markings of crown extremely variable, sometimes completely absent, sometimes fused to form an irregular, fuscous, submarginal band, typically consisting of a pair of

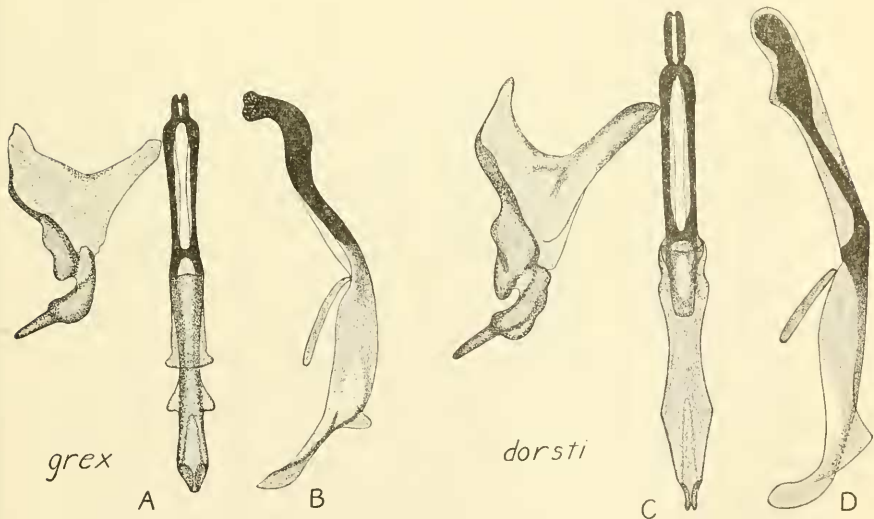
¹ Ent. Soc. Amer. Ann. 22 : 112-113, 1929.

² Ohio State Univ. Studies 2 : x + 129 pp., illus., 1926.

fuscous spots at the apex and an elongate, irregular, fuscous dash above each ocellus. Males usually more heavily marked than females. Thoracic sternites mostly fuscous. Legs slightly infuscated basally, otherwise unmarked. Abdomen dorsally, and basal portion ventrally, fuscous. Wings hyaline.

Crown of female bluntly angled anteriorly, median length about equal to that of pronotum. Crown of male not angled, shorter than pronotum. Forewings extending well beyond tip of abdomen in both sexes. Posterior margin of female seventh sternite broadly and shallowly emarginate medially, with a short toothlike process at the base of the emargination. Male plates short, broad basally, and triangular in outline. Distal portion of style rather slender and tapering to a subtruncate tip, ventral surface faintly dentate. Aedeagus simple, rather stout basally, tapering gradually to a slender, upturned, distal portion.

Holotype male, allotype female, and many paratypes of both sexes from Kirkland Junction, Ariz., May 31, 1935 (Oman). Types in the collection of the U. S. National Museum (cat. No. 54390). Other specimens at hand are from Yarnell Heights, Ariz., and Pecos and Santa Fe, N. Mex.



Explanation of fig. 1. *A*, dorsal view of style and aedeagus and *B*, lateral view of aedeagus of *Deltocephalus grex*; *C*, dorsal view of style and aedeagus and *D*, lateral view of aedeagus of *Deltocephalus dorsti*.